IN THE CLAIMS:

1. A method of making a low-resistance electrical contact between a metal and a layer of p-type CdTe surface by ion beam processing comprising:

a) placing a CdS/CdTe device into a chamber and evacuating said chamber to create a vacuum;

b) orienting the p-CdTe side of the CdS/CdTe device so that it faces apparatus capable of generating Ar atoms and ions of preferred energy and directionality;

c) introducing Argon and igniting the area of apparatus capable of generating Ar atoms and ions of preferred energy and directionality in a manner so that during ion exposure, the source-to-substrate distance is maintained such that it is less than the mean-free path or diffusion length of the Ar atoms and ions at the vacuum; and

d) allowing exposure of the p-CdTe side of the layer to said ion beam for a period less than about 5 minutes.

2. The process of claim 1 wherein said chamber is evacuated to a vacuum >1e-5 torr.

3. The process of claim 2 wherein said Ar atoms and ions are energized at energies from about 50 to 2000 electron volts.

4. The process of claim 3 wherein said mean-free path of the Ar atoms and ions are >500mm and pressure of the vacuum is

about 1e-5 torr.

3. The process of claim 2 wherein said ion source has an aperture of about 3cm.

4. The process of claim 3 wherein the exposure angle of the sample to the ion source is between about 45° and about 90°.